**Developing pedagogical practices in Myanmar primary schools: possibilities and constraints**

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**Abstract:** This paper presents the findings of a baseline study of pedagogic practices used by Myanmar primary teachers in the teaching of mathematics and Myanmar language at Grades 3 and 5. The main purpose of the baseline study was to inform the design of teacher education programmes and allow for subsequent evaluations of interventions designed to improve the quality of primary education. It found that the majority of lessons used a transmission model of teaching in which the teacher often used a chalk board and/or textbook to transmit recipe knowledge for recall and there little variation across the teaching of mathematics and Myanmar language at Grades 3 and 5. Drawing on evidence from the baseline, the paper explores the training needs of primary teachers in Myanmar in the light of proposed reforms to teacher education at the pre and in-service stages.

**Introduction**

Since the first general election in 2010 marking an important step in the transition from military rule to civilian democracy, and a subsequent election in April 2012 that saw the return of Aung San Suu Kyi and her National League for Democracy party to national politics, Myanmar (formerly known as Burma) has been emerging from decades of international isolation and ethnic conflict. At a time when Myanmar is being welcomed back into the global economy and is introducing reforms to expand trade and investment, there is an urgent to rebuild its capacity for political, administrative and legal reform, and for the delivery of key public services, especially education and health.

While access to data on education in Myanmar is often limited and out of date, official figures show that primary education has a 97 per cent intake rate with gender parity (Ministry of Education, 2012). There are currently some 41,000 schools and about 276,000 school teachers, as well as 23 Education Colleges and an Institute of Education that produce around 10,000 teachers annually. According to official figures 81 per cent of children complete the full cycle of primary education that ends at the fourth grade. However, it is acknowledge that there are disparities in access to education between states and divisions. For example, the net enrolment for primary schools in Kachin State is 94.8 per cent compared to 61.2 per cent in Shan State East and 59 percent in Chin State.

Recent international figures suggest the overall completion rate to be lower with 45 per cent of children initially enrolled in school failing to complete the final primary grade, with the highest rate of dropout (19%) at the end of first grade (United Nations, 2011). In terms of literacy rates, official figures state that adult is around 95 percent (UNESCO, 2010a). However a recent UNICEF study of a 1000 Myanmar primary schools in 20 Townships found low levels of learning achievement with the majority of pupils completing the primary school cycle having mastered less than 50 per cent of the competencies set out in the curriculum for Myanmar language and mathematics (Vine, 2010).

In the face of these challenges, there is a growing recognition by the Government of Myanmar and its donor partners thata focus on pedagogy and its training implications needs to be at the heart of the commitment to improve student retention, progression and learning in Myanmar. Such a commitment to the development of teacher capacity will require professional development programmes that bring together initial teacher education and continuing professional development so as to create a lifelong framework for teachers to upgrade their pedagogic knowledge and skills over a sustained period of time (Schwille et al., 2007; Stuart et al., 2009; UNESCO, 2010b; Schweisfurth, 2011). The baseline study was therefore commissioned to feed into the development of a national teacher development strategy and to allow for subsequent evaluations of interventions designed to improve the quality of teaching and learning in Myanmar primary schools.

**Methodology**

The baseline study set out to investigate the types of interactions Myanmar primary teachers use in whole class, group-based and one-to-one teaching to present, organise and sustain learning tasks and activities in Myanmar language and mathematics classes. A multi-method research design using both quantitative and qualitative methods was used to study classroom processes and allow for methodological triangulation to achieve greater validity and reliability in the study.

As well as informing the design of teacher education programmes, the baseline study was also seen as a capacity building exercise for the Ministry of Education (MOE), UNICEF field officers and tutors from teacher colleges. Staff from the MOE, UNICEF and Education Colleges were therefore trained as data collectors and fully involved in the design, implementation and dissemination phases of the project.

*Research Instruments*

The classroom interaction study made use of two systematic observation schedules completed in the natural setting of the classroom and interactive analysis of a sub-sample of digitally recorded lessons to investigate the time spent on a range of teaching and learning activities. All three instruments were designed to be comprehensive, manageable and as low-inference as possible in capturing current pedagogical practices in Myanmar primary schools. They were informed by international pedagogical research into effective teaching behaviours focusing on what can be observed in the act of teaching (i.e. task, activity, interaction, assessment) so as to ensure the observations of classroom processes were as valid and reliable as is practically possible (Hardman et al., 2009 Hardman et al, 2011).

Research into effective teaching has identified a number of key teaching behaviours that lead to higher gains in learning outcomes in which the quality of teacher-pupil interaction is central. They include instructional variety, using and incorporating pupil ideas, appropriate and varied questioning, probing for knowledge and frequent feedback in which classroom interaction is central to the act of teaching (Alexander, 2008; Hattie, 2009; Muijs, D & Reynolds, 2011). Investigating the quality of teacher-pupil interaction in Myanmar primary schools was therefore a central feature of the study.

All three instruments drew upon a 3-part teaching exchange structure that is central to teacher-pupil interaction (Sinclair & Coulthard, 1992). In its prototypical form a teaching exchange consists of three moves: an *initiation*, usually in the form of a teacher question, a *response* in which a pupil, or group of pupils, attempts to answer the question, and a *follow-up* move, in which the teacher provides some form of feedback (very often in the form of an evaluation) to the pupil's response (IRF). However, research into classroom interaction suggests that the IRF structure can take a variety of forms and functions leading to different levels of pupil participation and engagement (Wells, 1999; Nystrand et al. 1997; Hardman, 2008; Liu, 2008). Such studies suggest that teacher follow up which goes beyond evaluation answers, by asking pupils to expand on their thinking, justify or clarify their opinions, or make connections to their own experiences, can extend the answer in order to draw out its significance so as to create a greater equality of participation.

To ensure the instruments were appropriate to the Myanmar primary school context, they were piloted over 3 days in 19 primary schools in 5 Townships. One prominent ‘questioning’ move noted in the piloting of the instruments was the use of a mid-sentence rise in voice intonation that acted as a teacher elicit, designed to get a response from the pupils during, or at the end of, an explanation or following a pupil response. Usually, the elicitation was in the form of a repetition or completion of a phrase or word. It was often direct and pupils often knew from the intonation whether it required an individual answer or a choral response. This was categorised as a *cued elicitation.* Cued elicitations and teacher checks therefore largely functioned as ritualised participation strategies designed to keep the pupils involved rather than requiring an answer to a question.

*Observation schedule 1: Timeline analysis:* this schedule required the observer to record the main teaching activities from a list of prompts *every five minute interval* in the lesson. In the note section, observers were asked to record activities not covered in the checklist and to provide further contextual information on the activities ticked in the checklist. Because it was systematically recording the main teaching and learning activities of the lesson in real time, the timeline analysis was designed to be formative so as to inform the completion of Observation Schedule 2, which was more summative in design. All lessons were observed by a pair of observers and the observation schedule completed independently.

*Observation Schedule 2: Frequency of teacher /pupil behaviours:* this schedule was designed to capture the frequency of teacher and pupil behaviours that occurred during the course of a lesson and was completed at the end. The schedule asked the observers to agree the frequencies of 32 teaching and learning activities using a 4 point scale: 1 = behaviour never observed; 2 = behaviour rarely observed (i.e. once or twice); 3 = behaviour occasionally observed (i.e. four or five times); 4 = behaviour consistently observed.

*Observation Schedule 3: Systematic coding of digitally recorded lessons***:** a sub-sample of 40 digitally recorded lessons covering the teaching of mathematics and Myanmar language at grades 3 and 5 was analysed both quantitatively and qualitatively with the aid of a computer software programme to log the duration of the time spent on a range of teaching and learning activities.

*Reliability of Coding*

During the data collection training workshop, inter-rater reliability checks were conducted on Observation schedules 1 and 2 using digitally recorded lessons consisting of descriptive item analysis so as to achieve reliability ratings of at least 80% amongst the data collectors. By the end of the training workshops, observers were achieving over 90% agreement on their inter-rater reliability scores

*Sample*

The classroom interaction baseline study consisted of a stratified sample of 200 schools selected from 1000 schools in 20 Townships serving a range of ethnic groups where UNICEF is currently working. The schools were selected to be representative of urban and rural setting and size of school. In each of the schools a Myanmar language and mathematics lesson was to be observed at Grades 3 and 5 giving a total figure of 4 observations per school. However, due to security risks in some of the border regions, only 182 schools could be visited giving a total sample of 728 lesson observations.

The overall means for the number of pupils in the 728 lessons observed is given in Table 1 below.

**Table 1: Class size**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Mean | Std. Deviation | Minimum | Maximum |
| Grade 3 | 32.35 | 24.32 | 1.00 | 124.00 |
| Grade 5 | 28.70 | 22.07 | 1.00 | 109.00 |
| All classes | 30.89 | 23.74 | 1.00 | 124.00 |

Observers recorded the language of instruction used in the 728 lessons observed. It can be seen in Table 2 that in nearly 80% of lessons Myanmar was used as the medium of instruction and that code switching between Myanmar and a local language was common in 13% of the lessons observed, with 8% of lessons being taught in an ethnic language other than Myanmar.

**Table 2: Languages of instruction**

|  |  |  |
| --- | --- | --- |
|  | Frequency | Percent |
| Chin | 6 | .8 |
| Dawei | 34 | 4.7 |
| Karen | 4 | .5 |
| Kayan | 2 | .3 |
| Myanmar | 577 | 79.3 |
| Myanmar/Chin | 28 | 3.8 |
| Myanmar/Dawei | 8 | 1.1 |
| Myanmar/Dawei/Karen | 1 | .1 |
| Myanmar/Kachin | 3 | .4 |
| Myanmar/Karen | 7 | 1.0 |
| Myanmar/Kayan | 24 | 3.3 |
| Myanmar/Lahu | 4 | .5 |
| Myanmar/Mon | 2 | .3 |
| Myanmar/Palaung | 4 | .5 |
| Myanmar/Pao | 4 | .5 |
| Myanmar/Rakhine | 3 | .4 |
| Myanmar/Shan | 2 | .3 |
| Rakhine | 12 | 1.6 |
| Total | **725** | **99.6** |
| Unknown | **3** | **.4** |
| Total | **728** | **100.0** |

In the piloting phase of the study, it was found that teachers follow nationally prescribed textbooks for Myanmar language and mathematics. In terms of the pupil: textbook ratio, it was found that in 76% of the classes observed all the pupils had their own textbook for Myanmar language and mathematics and in 23% of classes they had to share a textbook. Observers also recorded the number of lessons that had a lesson plan. Overall, it was found that 39% of the lessons observed had a plan and that teachers working in rural schools were less likely to plan lessons (i.e. 73% of teachers in rural schools had no lesson plan compared to 38% in urban schools).

**Findings**

This section presents the main findings of the study. Firstly, an analysis of the timeline data is presented. This is followed by a detailed analysis of the frequency of the 32 teaching and learning behaviours. Finally, an interactive analysis of the time spent on a range of teaching and learning activities in a sub-sample of 40 digitally recorded lessons covering the teaching of mathematics and Myanmar language at Grades 3 and 5 is presented and comparisons drawn across all three observation instruments.

*Timeline analysis*

Working independently, two observers were asked to complete the timeline analysis schedule. The schedule required the observers to record the main teaching activities from a list of prompts *every five minute interval* in the lesson. Observers could record more than one activity in each of the five minute sections of the lesson. A check on the level of agreement between the two observers showed it was above 90 percent. The 1456 lesson observations were subsequently merged and analysed. Table 3 gives a breakdown of the lesson length.

**Table 3: Lesson length**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | N | Mean | Minimum | Maximum |
| All | 728 | 32.71 | 5 | 94 |
| Grade 3 | 362 | 30.67 | 5 | 90 |
| Grade 5 | 362 | 34.74 | 15 | 94 |

In analysing the data a count of the number of times an activity occurred within a 5-minute interval was conducted and divided by the total number of activities in the interval to arrive at a percentage of the time spent on the activity. Officially, Grade 3 lessons are meant to last 30 minutes and Grade 5 lessons 35 minutes so the timeline schedules were completed within these time frames. If the lesson ended before the official designated time, observers coded the behaviour as ‘off-task’. Table 4 and Figure 1 show a breakdown of the most common teaching and learning activities as a percentage of the lesson time.

**Table 4: Percentage of time spent on teaching and learning activities at Grade 3**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Teaching activity | 1 – 5  minutes | 6 - 10 minutes | 11- 15 minutes | 16 – 20 minutes | 21 – 25 minutes | 26 – 30 minutes | Overall |
| 1. Explanation/  Question/Answer | 25.4 | 23.6 | 22.1 | 20. | 18.9 | 18.1 | 21.4 |
| 2. Rote/recitation | 22.7 | 21.6 | 20.1 | 18.0 | 16.8 | 16.8 | 19.3 |
| 3. Chalkboard | 19.8 | 16.5 | 14.9 | 13.3 | 12.6 | 12.0 | 14.9 |
| 4. Pupils working  from chalkboard | 2.1 | 3.8 | 5.1 | 6.7 | 6.5 | 5.9 | 5.0 |
| 5. Teacher reading | 7.2 | 8.0 | 6.4 | 6.6 | 5.7 | 4.3 | 6.4 |
| 6. Pupil reading | 4.1 | 5.3 | 5.9 | 6.2 | 5.9 | 4.6 | 5.3 |
| 7. Pupils working  from textbook | 1.5 | 2.4 | 3.3 | 4.0 | 5.5 | 5.5 | 3.7 |
| 8. Paired/group  work | 1.5 | 2.0 | 1.7 | 1.8 | 1.8 | 1.7 | 1.7 |
| 9. Pupil demonstrating | 0.2 | 0.2 | 0.6 | 0.8 | 0.9 | 0.4 | 0.5 |
| 10. Teacher reviews topic | 2.1 | 2.6 | 3.5 | 4.1 | 5.0 | 5.1 | 3.7 |
| 11. Teacher marking | 0.1 | 0.7 | 1.1 | 2.1 | 3.6 | 3.9 | 1.9 |
| 12. Class  management | 5.4 | 5.7 | 5.8 | 5.8 | 5.2 | 5.5 | 5.6 |
| 13. Class admin. | 5.5 | 4.1 | 4.0 | 4.7 | 4.1 | 3.9 | 4.4 |
| 14. Interruption | 0.8 | 1.0 | 1.8 | 1.6 | 1.3 | 1.5 | 1.3 |
| 15. Pupils off-task | 1.6 | 2.6 | 3.6 | 4.4 | 6.1 | 10.6 | 4.8 |

**Key:** *A1 = Teacher explanation/question & answer; A2 = Teacher rote/chorus responses; A3 = Teachers writing on chalkboard; A4 = Pupils working from chalk board; A5 = Teacher reading to whole class; A6 = Pupil reading to whole class; A7 = Pupils working from textbooks; A8 = Pupils working in pairs/groups; A9 = Pupil demonstrating to class; A10 = Teacher reviews lesson topic; A11 = Teacher marking work; A12 = Class Management; A13 = Class administration; A14 = Interruption to lesson; A15 = Pupils off-task*

Similarly, Table 5 and Figure 2 show a breakdown of the most common teaching and learning activities in Grade 5 lessons as a percentage of the lesson time

**Table 5: Percentage of lesson time spent on teaching and learning activities at Grade 5**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Teaching activity | 1 – 5  minutes | 6 - 10 minutes | 11- 15 minutes | 16 – 20 minutes | 21 – 25 minutes | 26 – 30 minutes | 31 – 35 minutes | Overall |
| 1. Explanation/  Question/Answer | 25.8 | 25.6 | 23.9 | 22.1 | 21.0 | 20.9 | 17.6 | 22.4 |
| 2. Rote/recitation | 23.8 | 22.4 | 19.9 | 19.2 | 17.8 | 16.9 | 14.4 | 19.2 |
| 3. Chalkboard | 20.0 | 17.4 | 15.5 | 14.2 | 14.3 | 13.3 | 12.5 | 15.3 |
| 4. Pupils working from chalkboard | 1.5 | 3.1 | 4.0 | 4.6 | 5.3 | 4.9 | 4.7 | 4.0 |
| 5. Teacher reading | 7.3 | 7.3 | 6.8 | 5.7 | 4.9 | 4.7 | 3.7 | 5.8 |
| 6. Pupil reading | 4.5 | 6.3 | 6.3 | 6.1 | 6.4 | 5.7 | 5.6 | 5.8 |
| 7. Pupils working from textbook | 1.2 | 1.6 | 3.1 | 5.3 | 5.4 | 6.4 | 7.5 | 4.4 |
| 8. Paired/group  work | 1.1 | 1.4 | 1.4 | 1.7 | 1.7 | 1.2 | 1.6 | 1.4 |
| 9. Pupil demonstrating | 0.3 | 0.3 | 1.3 | 1.3 | 0.8 | 1.0 | 0.9 | 0.8 |
| 10. Teacher reviews topic | 2.2 | 3.4 | 4.0 | 3.7 | 4.5 | 5.9 | 5.3 | 4.2 |
| 11. Teacher marking | 0.1 | 0.5 | 0.8 | 1.7 | 2.7 | 3.8 | 4.2 | 2.0 |
| 12. Class management | 5.3 | 4.5 | 5.3 | 5.0 | 5.2 | 5.2 | 4.6 | 5.0 |
| 13. Class admin. | 5.0 | 3.9 | 4.8 | 5.7 | 4.1 | 4.2 | 4.6 | 4.6 |
| 14. Interruption | 0.8 | 0.9 | 1.1 | 1.4 | 1.6 | 1.0 | 1.1 | 1.1 |
| 15. Pupils off-task | 1.2 | 1.3 | 1.7 | 2.3 | 4.1 | 5.1 | 11.7 | 3.9 |

The findings suggest that teacher-led explanation, question and answer, rote and chorusing of answers by pupils and use of the chalkboard by the teacher were the most common teaching and learning activities in the lessons observed at Grades 3 and 5. There also appeared to be little variation in the underlying pedagogy across grades. Overall, teacher directed activities accounted for over 80% of the lesson at Grades 3 and 5 time with individual seat work, where the pupils work from the chalkboard or a textbook, taking up nearly 9% of the lesson. Paired or group work and pupils demonstrating to the class appeared to be the least used of the teaching and learning activities at both grades accounting for just over 2% of the lesson time. For nearly 5% of the lesson time at Grade 3 and 4% at Grade 5, pupils were observed as being off-task, particularly in the later stages of the lesson. This suggested that lessons were ending early and teachers were not using a plenary session to draw the whole class together at the end of the lesson to summarise, consolidate and extend what has been covered and direct pupils to the next stage of learning.

**Key:** *A1 = Teacher explanation/question & answer; A2 = Teacher rote/chorus responses; A3 = Teachers writing on chalkboard; A4 = Pupils working from chalk board; A5 = Teacher reading to whole class; A6 = Pupil reading to whole class; A7 = Pupils working from textbooks; A8 = Pupils working in pairs/groups; A9 = Pupil demonstrating to class; A10 = Teacher reviews lesson topic; A11 = Teacher marking work; A12 = Class Management; A13 = Class administration; A14 = Interruption to lesson; A15 = Pupils off-task*

Further investigation of the timeline data using regression analysis found that class size was the most important factor in determining whether teachers made use of paired/group work and pupil demonstration: their use was significantly higher in classes ranging between 30 – 50 pupils (p = 0.008) (Table 6). Such pupil-centred approaches were also more likely to occur in the teaching of mathematics (p = 0.1) and in Myanmar speaking lessons (p = 0.13). While teachers in mono-grade classes were more likely to use paired/group work and pupil demonstration, the difference was not statistically significant. However, the interaction effect between non-Myanmar speaking and multi-grade lessons meant there was significantly less time spent on paired/group work and pupil demonstration in such lessons (p = 0.06).

Overall, the timeline analysis suggests Myanmar primary teachers were using a very narrow range of teaching and learning approaches made up of teacher-fronted ‘chalk and talk’ promoting the transmission of knowledge and rote learning. The guided co-construction of knowledge, in which a teacher talks with pupils in whole class, group and individual situations to guide their thinking, together with opportunities for collaborative learning to promote critical thinking and problem solving was rarely observed.

**Table 6: Regression analysis of time-line data**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Lin Regress (CCA\* time) | | Log regress (CCA: 5% = 0 or 1) | |
| coef | p value | coef | p value |
| Myanmar: yes/no | 0.01 | 0.03 | 0.48 | 0.13 |
| Multi-grade: yes/no | 0 | 0.97 | -0.26 | 0.43 |
| Urban: yes/no | -0.001 | 0.89 | 0.05 | 0.85 |
| Mathematics: yes/no | 0.007 | 0.04 | 0.37 | 0.1 |
| #Pupils Present | 0.001 | 0 | 0.06 | 0.008 |
| #Pupils Present ^2 | 0 | 0 | 0 | 0.006 |
| CONSTANT | -0.004 | 0.65 | -3.25 | 0 |

**\*Child-Centred Approaches (CCA) = teacher use of paired/group work and pupil demonstration**

*Frequency of teaching and Learning Behaviours*

Seven hundred and twenty eight live lessons were analysed using a schedule designed to capture the frequency of teacher and student behaviours, most of which have been identified in the international research literature as being effective in raising achievement, occurring during the course of a lesson. A breakdown of the lesson observations by subject and year group is given in Table 7.

**Table 7: Breakdown of observed lessons by subject and year group**

|  |  |  |
| --- | --- | --- |
|  | Mathematics | Myanmar Language |
| Grade 3 | 128 | 128 |
| Grade 5 | 128 | 128 |

The 32 observable practices were categorised into 4 sections on the observation schedule. In Section 1 there were 15 teaching and learning behaviours covering lesson clarity, the setting of learning objectives, instructional variety (i.e. use of whole class, paired/group-based and individual teaching) and the general climate of the classroom. Six behaviours were captured in Section 2 covering teacher approaches to questioning, and 6 behaviours were captured in Section 3 covering teacher feedback and follow-up to the questions. Section 4 was made up of 3 behaviours exploring teacher management of the class.

Of the 32 observable practices whose frequencies were rated on a 4-point scale(1 = never observed; 2 = rarely observed (i.e. once or twice); 3 = occasionally observed (i.e. 4 or 5 time); 4 = consistently observed), it can be seen as shown in Figure 3 that:

* 16 were found to be never or rarely observed in over 90% of the lessons
* a further 9 were never or rarely observed in over 80% of the lessons observed

As in the timeline analysis, the data suggest that teacher fronted activities in the form of closed questions (17), cued elicitations (16) and use of the chalk board (6) were the most common teacher behaviours. More dialogic approaches in the form of open questions (18), probing of pupil answers (24) and building their answers into subsequent questions (26) to create greater pupil participation in the talk were the least used. Similarly, pupil questions (27), peer tutoring (12), paired/group work (11) and pupil demonstration (21) were largely absent. The data also suggest that teaching behaviours designed to promote clarity through clear lesson structures, instructional variety and a positive classroom climate were not part of the teaching repertoire. For example, teachers rarely stated the learning objectives (1) of the lesson, checked for prior knowledge (2) or used a plenary to summarise and extend pupil learning (15). They also rarely displayed a positive to tone (8), knew pupil names (9), interacted with individual pupils (14) or encourage the equal participation of both girl and boy pupils (9).



Table 8 shows a ranking of the behaviours according to whether they were ‘never’ or ‘rarely’ observed. The table suggests that teacher use of the IRF to open up space in the whole class talk to allow for the co-construction of ideas between teachers and pupils through the use of open questions, probes and comments on pupil answers and the building of answers into subsequent question was rarely practiced, as was the use of peer tutoring, group work and pupil demonstration to encourage teacher-pupil and pupil-to-pupil discussion.

**Table 8: Teaching and learning behaviours ‘never’ or ‘rarely’ observed**

|  |  |
| --- | --- |
| Teacher uses peer tutoring | 0.0% |
| Teacher builds pupil answers into subsequent questions | 0.0% |
| Teacher encourages pupils to ask questions | 0.1% |
| Pupils with special needs identified/included in questioning | 0.2% |
| Teacher probes pupil answers | 0.4% |
| Teacher asks pupils to demonstrate in front of class | 0.4% |
| Teacher uses paired/group work | 1.4% |
| Teacher asks open-ended questions | 1.4% |
| Teacher provides equal amounts of feedback to girls and boys | 1.6% |
| Teacher arranges classroom layout to facilitate learning of all pupils | 2.6% |
| Teacher provides equal opportunities for girls & boys to answer questions | 3.0% |
| Teacher summarises throughout lesson | 3.2% |
| Teacher encourages equal participation of girls &boys | 4.0% |
| Teacher comments on pupil answers | 5.9% |
| Teacher moves around to interact with pupils | 6.6% |
| Teacher checks prior knowledge | 9.5% |

In comparison, Table 9 gives a breakdown of the most commonly observed behaviours in the 728 lessons. It emphasises how teacher-fronted activities through the use of closed questions, cued elicitations, writing on the chalk board and teacher explanation were the most regularly occurring activities.

**Table 9: Summary of most common teaching and learning behaviours**

|  |  |
| --- | --- |
| Teacher asks close-ended questions | 35.6% |
| Teacher uses cued elicitation | 33.1% |
| Teacher exhibits personal enthusiasm | 33.1% |
| Teacher makes effective use of chalk board | 29.3% |
| Teacher emphasises key points of the lesson | 25.1% |
| Teacher relates well to learners | 24.6% |
| Teacher explains material accurately and clearly | 20.7% |

Overall, the frequency data analysis suggests many of the teaching behaviours identified in the international literature as being effective in raising attainment are rarely practiced by Myanmar primary schools, particularly teaching strategies that promote dialogue and discussion.

The data were further explored using the Mann-Whitney U test to compare whether there were any statistically significant differences in the observations across subjects and grades, and across mono-grade and multi-grade schools. While the following analysis of the ranking of the scores showed there were some significant differences across the subjects, grades and type of school, it should be noted that most of the observable practices were ‘never’ or ‘rarely’ observed in majority of the lessons.

*Grade differences*

The Grade 3 lesson observations were compared to the Grade 5 lessons for each of the 32 behaviours. It was found that in 29 out of the 32 teaching and learning behaviours there was no significant difference between the grades (p < 0.05). This suggests there was little difference in the underlying pedagogic approach used to teach across the two grades. Of the three behaviours that were significantly different (i.e. checking for prior knowledge, open questions and building pupil answers into subsequent questions) they were more likely to be observed in the Grade 5 lessons.

*Subject differences*

When the Myanmar and mathematics lessons across both grades were compared there were statistically significant differences in 10 of the 32 teacher and learning behaviours (p < 0.05). Teachers tended to use more explanation and make greater use of the chalkboard and other teaching and learning resources in mathematics. They were also more likely to show enthusiasm and interact with individual pupils and encourage individual rather than choral responses to their questions. Teachers in mathematics lessons were also more likely to comment on individual answers and provide more individual feedback during individual seatwork in mathematics lessons. In Myanmar language lessons, teachers were more likely to ask open questions and build pupil answers into subsequent questions.

When the grades were examined separately it was noted that there was less likely to be a difference between the frequency of the observable practices in Grade 5 subjects (Myanmar language and mathematics) (6 out of 32 behaviours showing significant differences) compared to the Grade 3 subjects (13 out of 32 behaviours showing significant differences). Where differences did occur it was found that the behaviours were more likely to have been observed in mathematics lessons. At Grade 5, teachers of mathematics were more likely to make use of the chalkboard, interact with individual pupils, evaluate their answers and provide feedback during individual seatwork. In the teaching of Myanmar at Grade 5, teachers were more likely to use open questions and build pupil answers into subsequent questions. At Grade 3, teachers of Myanmar were more likely to ask open questions, whereas teachers of mathematics were more likely to make greater use of explanation, the chalkboard and other learning resources, emphasise key points and show enthusiasm in their teaching and interact with individual pupils to provide feedback and to evaluate and comment on their answers. Teachers of mathematics at Grade 3 were also more likely to use paired/group work and peer tutoring.

*Type of School*

Table 10 shows a breakdown of the schools in the sample according to whether the children were taught in mono-grade or multi-grade classes[[1]](#footnote-1) and whether the school was located in an urban or rural area.

**Table 10: Type of school and location**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Mono-grade | Multi-grade | Unknown | Total |
| Rural | 34 | 71 | 38 | 143 |
| Urban | 30 | 2 | 4 | 35 |
| Unknown | 0 | 1 | 2 | 3 |
| Total | 64 | 74 | 44 | 182 |

As most of the urban schools were mono-grade an analysis was carried out for just the mono-grade schools to see if there were any differences between rural and urban schools; this showed that the urban schools were significantly more likely to display the observable behaviours (15 out of 32) (p < 0.05). Urban teachers were more likely to state the lesson objectives and check for prior knowledge and to use the chalkboard and other learning resources. They also showed a greater tendency to interact with pupils, including pupils with special educational needs, by calling on individual pupils by name to answer questions and by using more open and closed questions and to demonstrate in front of the class. There was also more follow up, through teacher evaluation, probing and commentary, to pupil answers. Urban teachers were also more likely to effectively manage the class and the lesson time.

When lessons in the rural mono-grade schools were compared to those in the rural multi-grade schools there were statistically significant differences in 10 out of the 32 teacher practices (p < 0.05). Where differences did occur, it was found that the behaviours were more likely to have been observed in the lessons in the mono-grade schools. Teachers in mono-grade schools showed a greater tendency to explain material clearly and accurately, to check for prior knowledge and emphasise key points throughout the lesson. They also showed more personal enthusiasm in their teaching and were more likely to encourage the equal participation of girls and boys in lessons and to have a good rapport with the class. They also appeared to use more closed questions and cued elicitations.

*Class size*

The data were analysed to investigate whether there were and statistically significant differences in the frequency of use of the 32 teaching and learning behaviours due to class size. Three groupings were created: classes below 30 pupils; classes between 30 – 60 pupils; classes above 60 pupils. No significant differences were found in the teaching and learning behaviours in classes lower than 30; however, 23 behaviours were significantly different in classes above 30 (15 were significantly different in classes of 30 – 60). While it is difficult to draw any firm conclusions from the analysis as to the optimum class size for promoting the effective teaching behaviours, the use of group work and pupil demonstration was significantly different in classes of 30 – 60 pupils.

Overall, the frequency analysis suggests Myanmar primary teachers are using a limited repertoire of teaching and learning approaches based on teacher explanation, rote and recitation with little attention being paid to securing pupil understanding through a blend of whole class, group-based and one-to-one interaction in which pupils play an active role in the classroom talk.

*Analysis of Digitally Recorded Lessons*

A sub-sample of 40 digitally recorded lessons from 8 townships covering urban and rural settings was analysed to investigate the proportion of time spent on 13 teaching and learning activities. The average lesson at Grade 3 lasted for 28 minutes and at Grade 5 it was 31 minutes. A breakdown of the lesson observations by subject and year group is given in Table 11.

**Table 11: Breakdown of digitally recorded lessons by subject and year group**

|  |  |  |
| --- | --- | --- |
|  | Mathematics | Myanmar Language |
| Grade 3 | 10 | 10 |
| Grade 5 | 10 | 10 |

A continuous sampling method was used to record the amount of time spent on a range of teaching and learning activities in a sub-sample of 40 digitally recorded lessons. This allowed for the lessons to be observed in real-time and for the duration of each of the teaching and learning activities to be calculated as a percentage of the lesson time. It also allowed for more intensive qualitative analysis of the patterning of the teacher-pupil interactions uncovered in the frequency and timeline data. Table 12 presents a breakdown of the percentage of time spent on each of the 13 teaching and learning activities across the 2 subjects and grades.

**Table 12: Percentage duration of teaching and learning activities**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Teaching/Learning Activity | Grade 3: Maths | Grade 6: Maths | Grade 3: Myanmar | Grade 6: Myanmar | Overall |
| 1. Teacher explanation/question & answer | 45.2 | 47.4 | 45.6 | 46.5 | 46.2 |
| 2. Teacher writing on chalk board | 14.8 | 13.2 | 11.8 | 11.2 | 12.7 |
| 3. Pupils working from chalk board | 6.6 | 5.6 | 4.8 | 5.2 | 5.6 |
| 4. Teacher reading to whole class | 4.6 | 4.4 | 3.7 | 6.2 | 4.7 |
| 5. Pupil reading to whole class | 2.3 | 3.2 | 4.8 | 5.3 | 3.9 |
| 6. Pupils working from textbooks | 5.2 | 5.8 | 6.2 | 6.3 | 5.9 |
| 7. Pupils working in pairs/groups | 1.6 | 1.8 | 1.4 | 2.1 | 1.7 |
| 8. Pupil demonstrating to class | 0.9 | 2.1 | 1.8 | 1.6 | 1.6 |
| 9. Teacher reviews lesson topic | 4.2 | 4.1 | 3.8 | 3.4 | 3.9 |
| 10. Class management | 4.8 | 4.4 | 5.3 | 4.5 | 4.8 |
| 11. Class administration | 4.1 | 3.4 | 4.8 | 3.6 | 3.9 |
| 12. Interruption to lesson | 1.5 | 0.8 | 1.2 | 0.9 | 1.1 |
| 13. Pupils off-task | 4.2 | 3.8 | 4.8 | 3.2 | 4.0 |

Overall, the analysis shows a similar distribution of time on the 13 teaching and learning activities across both subjects and year groups and the findings triangulate well with the timeline and frequency analysis. When the data were aggregated, they show that teacher directed activities (explaining, question and answer, writing on the chalk board, reading to the class, asking pupils to read, lesson summary, class management and administration) took up 80% of the lesson time (Figure 5). Individual seat work where the pupils were working from the chalkboard or textbook took up nearly 12% of the lesson and non-curricular activities (i.e. interruptions, pupils are off-task) took up a further 5% of the time. More pupil-centred forms of learning (i.e. paired or group work, pupil demonstration) accounted for just nearly 4% of the lesson time. The analysis also suggests there was little variation in teaching approaches across the two subjects at both stages of the primary curriculum. In other words, teachers were using the same underlying pedagogy regardless of the subject and grade they were teaching, and there were few opportunities for pupils to contribute their own ideas through dialogic engagement with the teacher in questioning and answer exchanges and in paired or group work or pupil demonstration.

More qualitative analysis of the teacher-pupil interactions in the 40 lessons found that it was common for teacher to ask closed questions or to use cued elicitations usually signalled by a mid-sentence rise in voice intonation that was designed to get a response from the pupils during, or at the end of, an explanation or following a pupil response. Usually, the elicitation was in the form of a repetition or completion of a phrase or word and answered in chorus*.* Choral responses were therefore the dominant method of responding to teacher initiations, making up nearly 80% of the response moves.

It was also common for choral answers to receive no follow-up. When follow-up did occur, teachers usually affirmed an answer or praised it often by asking the class to clap. Teacher comments on pupil answers, whereby they would rephrase, build or elaborate upon an answer, were rare, as were teacher probes (i.e. when the teacher continues to focus on a pupil who has answered and asks for further elaboration upon their answer). The findings also show that when an individual answer was called for a boy was twice more likely to be asked to answer a question by the teacher than girls. Pupil questions were also extremely rare: in all 40 lessons digitally recorded lessons only 12 pupils asked questions, 8 of which were boys. Where textbooks were used, the observations suggested that their use was often limited to the teacher reading to the class, interspersed with question and answer, individual pupil exercises and pupils reading to the class, thereby adding to the directive nature of the teaching.

*Overall Findings*

The overall findings from the 3 observation instruments suggest Myanmar primary teachers are mainly using a transmission model of teaching in which the teacher often uses a chalk board and/or textbook to transmit recipe knowledge for recall. The findings also suggest there was little difference in the way mathematics and Myanmar language were being taught across Grades 3 and 5. Pupils spent a great deal of time listening to the teacher explaining, asking questions, writing on the chalk board, reading and managing the class. The closed nature of the questioning and direction by the teacher meant that pupils were rarely given the opportunity to ask questions or contribute their ideas. It therefore limited the extent to which pupils could develop their oral skills and critical thinking, and take responsibility for their own learning. Because of the high use of closed questions, cued elicitations and choral responses, teacher feedback on individual pupil responses was rare offering very few opportunities for ideas to be developed or examined from other angles through the use of teacher probes, comments or questions that build on pupil answers.

In addition to the lack of dialogic engagement between teachers and pupils in whole class teaching, there was very little paired or group work to promote problem solving activities. Breaks in this pattern occurred when children were called to the front of the classroom to work at the blackboard or recite. Where textbooks were present in the classroom, they were often not well used by the teachers to promote active learning through paired or group activities or individual research. Teachers appeared to largely work through the textbook exercises and set tests at the end of a chapter, thereby adding to the emphasis on rote and memorisation and passivity of the learning.

Many of the teachers observed were working in an environment of genuine constraints caused by lack of adequate investment in school environments: schools buildings lacked electricity, learning resources and other facilities, and nearly 80% of the children were taught in multi-grade schools where, because of the lack of walls or partitions between classes, there was a high volume of noise. Classrooms were often overcrowded, poorly lit and ventilated with insufficient desks and chairs available, and buildings were in a poor state of repair, particularly in rural areas.

**DISCUSSION AND CONCLUSIONS**

Overall, the baseline study of Myanmar primary schools suggests improving the quality of primary education in such a poorly resourced context, where classes are often multi-grade with teachers responsible for more than one grade at a time, presents a considerable challenge. Where teachers lack training in multi-grade teaching, material conditions are poor in terms of the quality and availability of teaching and learning resources, and classrooms are often noisy and overcrowded, there are clearly limits on what teachers can do to change their teaching practice. However, research from low income countries suggests it is possible to change pedagogical practices and raise learning achievement through well designed and supported PRESET and school-based INSET system and programme that takes into consideration the contextual reality in which teachers work (Moon, 2007; Schwille *et al.*, 2007; Hardman et al., 2011/12, O’Sullivan, 2010).

Helping Myanmar teacher educators and teachers transform classroom talk from the familiar rote, recitation and exposition found in the current study to include a wider repertoire of dialogue and discussion will require professional development programmes that upgrade pedagogic knowledge and skills over a sustained period of time (Timperley, 2008; Mulkeen, 2010). By focusing on the classroom, school-based training can help teachers develop to broaden the repertoire of whole class teaching currently found in Myanmar classrooms. Such an approach builds on the traditional model of whole class teaching but avoids the simplistic polarisation of pedagogy into ‘teacher-centred’ versus ‘child-centred’ that has characterised much of the educational discourse in the international donor community (O’Sullivan, 2006; Barrett, 2007; Alexander, 2008, Ginsburg, 2010). It will also help to ensure there is a better balance and blending of local cultural practices in the different regions of Myanmar with internationally informed teacher education reforms (Avalos, 2011; Nguyen-Phuong-Mai, 2012).

In order to bring about such changes, school-based teacher development programmes need to start by helping teachers to explore their own beliefs and by getting them to reflect on their classroom discourse practices as a way of enhancing expert thinking and problem solving so as to bridge the gap between theories and actual classroom practice (O’Sullivan, 2006; Mattson, 2006; Courtney, 2007; Hardman et al., 2012). Therefore, in the context of Myanmar, a model of professional development which builds on existing systems and structures at Education College, school and cluster level is being proposed as a way of effectively supporting and developing teachers. Working at the school and cluster level will also help to ensure teacher education is part of a broader capacity development strategy that supports all actors in the education system at national regional and state level, including, for example, district education officers, head teachers and teacher trainers, and that it is cost effective against all the other competing demands in a resource-poor environment like Myanmar.

While there are many good pedagogic and professional development reasons why teacher education and professional learning should be largely located in the school environment, it should also be recognised that such provision requires a significant investment of time and money in building partnerships, collaboration and delegation. The capacity and training needs of those charged with organising and providing the training, mentoring and coaching, such as district officers and college tutors, will be central to the success of school-based training, as will the creation of incentives and accreditation for teacher educators who will be working with teachers in school. It also requires a clear division of roles and responsibilities at the national and sub-national level and between district officers, head teachers, schools and teacher educators.

The policy of teaching the primary curriculum through the Myanmar language is exerting a powerful influence on the quality of teaching and learning in some of the Townships visited by presenting communication difficulties for both teachers and pupils. Recent studies point to the advantages of using mother tongue as the medium of teaching and learning in the early stages of education (Pinnock, 2009). For the preschool and primary years in particular, teaching in a language which is not familiar to a child is often too demanding for them to cope with – particularly when they face other barriers to education, such as poverty, hunger and poor learning conditions. Not having access to primary schooling in a familiar language is leading to the exclusion of large numbers of children from education.

It also requires the appropriate training of teachers in the use of both the mother tongue and second language teaching to make the curriculum more relevant by connecting the learning to the pupil’s experience, environment and culture. However, the linguistic complexity and financial implications of providing for mother tongue teaching in contexts like Myanmar where there are more than 100 languages spoken has to be recognised. Such an approach therefore requires an analysis of how the country’s Myanmar language policy is affecting children’s participation and success in education so as to determine which language(s) would be most likely to increase enrolment, retention and pupil learning and the findings shared and discussed with stakeholders followed by information programmes to explain the policy.

In addition to the effects that a monolingual policy has on classroom interaction and discourse in Myanmar primary classrooms, the end-of-unit teacher tests continue to exert a powerful influence on instruction and the patterning of classroom interaction because they focus on memorisation and factual recall from the text books, leading to transmission forms of teaching. It is important that other approaches supplement the current normative evaluation and that teachers have a thorough understanding of formative and competency-based assessment (Wiliam, 2010; Somerset, 2011).

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1. In Myanmar, it is estimated that about half of the primary schools are multi-grade with teachers responsible for more than one grade at a time, usually taught in school buildings lacking partitions or walls between classes. [↑](#footnote-ref-1)